



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/533,546

05/02/2005

Akira Sakurai

123653

9357

25944 7590 10/29/2008
OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

10/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,546	Applicant(s) SAKURAI ET AL.	
	Examiner Monique R. Jackson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19 and 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/14/08, 7/2/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 8/4/08 has been entered. Claim 20 has been canceled. New claim 29 has been added. Claims 11-19 and 21-29 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 11-19 and 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aonuma. As discussed in the prior office action, Aonuma teaches a chemical solution for forming a silver film on a substrate wherein the resulting coated substrate comprises a silver mirror film on the surface of the substrate, and a coated film of transparent resin on the silver film (Abstract; Col. 2; Examples.) Aonuma teaches an aqueous chemical solution for forming a silver mirror layer on a substrate, such as a transparent glass substrate, wherein Aonuma teaches that the chemical solution comprises: (1) an ammoniac silver nitrate solution; (2) a reducing solution containing a reducing agent and a base component such as sodium hydroxide (*reads upon claimed caustic soda*); and (3) an additive containing a compound of a polyvalent metal contained in at least one of the ammoniac silver nitrate solution and the reducing solution (Abstract.) Aonuma teaches that the process of forming the silver film includes (a) bringing a hydrochloric acid acidified stannous chloride solution into contact with a surface of the substrate, thereby conducting a pretreatment of the surface; (b) bringing another ammoniac silver nitrate solution into contact with the surface of the substrate; and (c) bringing the ammoniac silver nitrate solution into contact with the reducing solution, on the surface of the substrate, thereby forming the silver film (Abstract.) Aonuma teaches that **the nitrate solution and reducing solution are simultaneously sprayed and mixed on the transparent glass substrate** (Col. 2,

Art Unit: 1794

lines 24-30.) Aonuma teaches that a suitable additive can be bismuth carbonate, or other Bi(III) compounds and further teaches examples wherein the amount of silver in the nitrate solutions falls within the claimed range (Col. 2, lines 62-65.) Though Aonuma teaches the use of the same aqueous solutions in forming the silver film as in the instant invention, Aonuma does not specifically teach that the solutions are coated onto the object “immediately after mixing the caustic soda and the reducing agent” however from the teachings of Aonuma, it appears as if the solutions of the examples are mixed during the experimental examples and given that Aonuma does not teach any other intermediate steps, it would have been obvious to one having ordinary skill in the art that the solutions were simultaneously sprayed “immediately” after forming the solutions, particularly since it would have been obvious that the final silver reaction would be affected by the reactivity of the solutions, which may diminish over time. Further, Aonuma does not teach the use of an ammoniacal silver carbonate solution however an aqueous solution of ammoniacal silver carbonate is a known, conventional solution utilized in producing silver thin coatings wherein silver carbonate is typically an intermediate compound resulting from the reaction of silver nitrate with a carbonate compound prior to reduction to the silver coating, as well as a functionally equivalent silver salt compound. Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to further mix other silver salt solutions such as silver carbonate with the solutions taught by Aonuma, in any mixing order, wherein one skilled in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum amount of sodium and silver in the solutions, with typical amounts falling within the claimed ranges as taught by Aonuma and would result in a silver thickness within the claimed range. Lastly, though Aonuma teaches pretreatment of the

Art Unit: 1794

substrate to improve adhesion of the silver film to the substrate, Aonuma does not specifically teach a resin primer layer, however, it is well established in the art that a primer layer, such as a primer comprising an acrylic or alkyd or resin similar to the resin utilized as a protective coating taught by Aonuma to reduce the number of coating compositions needed, can be applied between the substrate and silver layer to improve adhesion.

Response to Arguments

3. Applicant's arguments filed 8/4/08 have been fully considered but they are not persuasive. The Applicant argues that the instant invention provides unexpected results over the teachings of Aonuma given that Aonuma does not specifically teach applying the solutions immediately after mixing the reducing solution with the caustic soda or sodium hydroxide solution. However, as discussed above, the teachings of Aonuma appear to suggest that the solutions are applied "immediately" after mixing and further one skilled in the art at the time of the invention would have been motivated to control the amount of time that the reactive solutions stood prior to reacting wherein it is well established in the art that reactivity of a solution may be diminished during sitting or storage and hence the results and arguments presented by the Applicant do not constitute any "unexpected" improvements over the teachings of Aonuma.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 1794

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
October 26, 2008